

# ABSTRACT

An exemplary monolithic stabilized monolithic transmissive active optical device, such as an electroabsorption modulator (EAM), a variable optical attenuator (VOA), or a semiconductor optical amplifier (SOA), with an output optical tap, is formed from: a  
5 substrate; a waveguide layer; a semiconductor layer. The waveguide layer is coupled to the substrate and includes an active medium, which interacts with a predetermined wavelength of light, and is responsive to an electric signal. The electric signal is applied between the substrate and the semiconductor layer. The waveguide layer includes an output optical tap section and an active section adjacent to the output optical tap section.  
10 These sections include portions of the active medium. Further embodiments of the present invention incorporate temperature as well as bias control to improve performance of exemplary monolithic transmissive active optical devices.